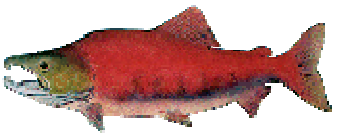
January 27, 2006

ESA Recovery Planning for Lake Ozette Sockeye Salmon

Status of Planning Effort and Strategy for Completing Plan

January 27, 2006



CONTENTS

Acronyms

ESA	U.S. Endangered Species Act
ESU	evolutionarily significant unit
NMFS	National Marine Fisheries Service
NPCC	Northwest Power and Conservation Council
TRT	Technical Recovery Team
USFWS	United States Fish and Wildlife Service
VSP	Viable Salmonid Population
WDFW	Washington Department of Fish and Wildlife

Glossary

This glossary is provided to help new readers differentiate between a number of terms related to types of plans, goals, and spatial scales relevant to recovery planning for salmon and steelhead in the Lake Ozette Basin.

De-listing criteria: Criteria incorporated into ESA recovery plans that, when met, would result in a determination that a species was no longer threatened or endangered and could be proposed for removal from the Federal list of threatened and endangered species.

ESA recovery plan: A plan to recover a species listed as threatened or endangered under the U.S. Endangered Species Act. Plans must, at a minimum, contain (1) site-specific management actions necessary to achieve the plan's goal; (2) objective, measurable criteria which, when met, would result in a determination that the species should be removed from the list; and (3) estimates of the time required and cost to carry out the measures needed to achieve the plan's goal.

Evolutionarily significant unit (ESU): A group of Pacific salmon or steelhead trout that is (1) substantially reproductively isolated from other nonspecific units and (2) represents an important component of the evolutionary legacy of the species.

Independent population: Any collection of one or more local breeding units whose population dynamics or extinction risk over a 100-year time period is not substantially altered by exchanges of individuals with other populations.

Limiting factor: Physical, biological, or chemical features (e.g., inadequate spawning habitat, high water temperature, insufficient prey resources) experienced by the fish at the population, intermediate (e.g., stratum or major population grouping), or ESU levels that result in reductions in viable salmonid population (VSP) parameters (abundance, productivity, spatial structure, and diversity). Key limiting factors are those with the greatest impacts on a population's ability to reach its desired status.

Locally developed recovery plan: A plan developed by state, tribal, regional, or local planning entities to address recovery of a species. These plans are being developed by a number of entities throughout the region to address Endangered Species Act as well as state, tribal, and local mandates and recovery needs.

Recovery domain: An administrative unit for recovery planning defined by NMFS based on ESU boundaries, ecosystem boundaries, and existing local planning processes. Recovery domains may contain one or more listed ESUs. NMFS intends to develop one recovery plan that addresses all listed ESUs within a domain.

Recovery goals: Goals incorporated into a locally developed recovery plan. These goals may go beyond the requirements of ESA de-listing by incorporating goals that address other legislative mandates or social values.

Recovery plan supplement: A NMFS supplement to a locally developed recovery plan that describes how the plan addresses ESA requirements for recovery plans. The supplement also proposes ESA de-listing criteria for the ESUs addressed by the plan, since a determination of these criteria is a NMFS decision.

Recovery scenarios: Scenarios that describe a target status for each population within an ESU, generally consistent with TRT recommendations for ESU viability.

Recovery strategies: Broad sets of actions that address limiting factors and threats and would lead to achieving recovery goals or de-listing criteria.

Technical Recovery Team (TRT): Teams convened by NMFS to develop technical products related to recovery planning. TRTs are complemented by planning forums unique to specific states, tribes, or regions, which use TRT and other technical products to identify recovery actions.

Threats: Human activities or natural events (e.g., road building, floodplain development, fish harvest, hatchery influences, volcanoes) that cause or contribute to limiting factors. Threats may be caused by the continuing results of past events and actions as well as by present and anticipated future events and actions.

Viability criteria: Criteria based on the parameters of abundance, productivity, spatial structure and diversity that describe a viable salmonid population (VSP) (an independent population with a negligible risk of extinction over a 100-year time frame) and that describe a general framework for how many and which populations within an ESU should be at a particular status for the ESU to have an acceptably low risk of extinction.

Viable salmonid population (VSP): an independent population of Pacific salmon or steelhead trout that has a negligible risk of extinction over a 100-year time frame. Viability at the independent population scale is evaluated based on the parameters of abundance, productivity, spatial structure, and genetic and life history diversity.

Introduction

This document describes the activities of NOAA's National Marine Fisheries Service (NMFS) and the Lake Ozette Steering Committee (Committee) to produce a draft Endangered Species Act (ESA) recovery plan for the Lake Ozette sockeye salmon (*Oncorhynchus nerka*) evolutionarily significant unit (ESU) (Figure 1).

In 2005, NMFS and the Committee, which includes diverse stakeholders, tribal governments, Federal agencies, and the State of Washington, began working together to write a plan for Lake Ozette sockeye that will meet NMFS' ESA requirements for recovery plans and the State of Washington's recovery planning needs (http://www.governor.wa.gov/gsro/default/htm).

This recovery strategy identifies the milestones and next steps needed to produce a draft sockeye recovery plan by December 2006. It includes a review of the status of the Lake Ozette sockeye ESU,[1] describes the context for NMFS' ESA recovery planning, describes existing recovery work products, and identifies next steps to produce a draft ESA recovery plan.

Background Information

Historically, the Ozette watershed in the far reaches of Northwest Washington had thriving populations of several salmon species, including sockeye salmon. Lake Ozette sockeye made an important contribution to the fisheries of the Makah and Quileute Tribes, and to the subsistence of the early European settlers in the watershed. For thousands of years, these fish were a thriving part of the ecology, culture, and commerce of this basin. In the past 150 years, however, increasing human population within the basin and associated development and resource use, combined with natural disturbances and climate cycles, have driven the ESU to the point where its persistence is in doubt.

Lake Ozette sockeye salmon were first listed by NMFS as threatened in 1999 (64 FR 14528; March 25, 1999). In June 2005, after a region-wide review of the status of salmon and steelhead ESUs, NMFS again listed the ESU as threatened under the ESA (70 FR 37160; June 28, 2005).

[1] For the purposes of fulfilling the mandates of the ESA, NMFS treats ESU as "species" as the Act defines the term "…including any subspecies of fish or wildlife or plants, and any distinct population segment of any species or vertebrate fish or wildlife which interbreeds when mature" (16 U.S.C. §1531-1544).

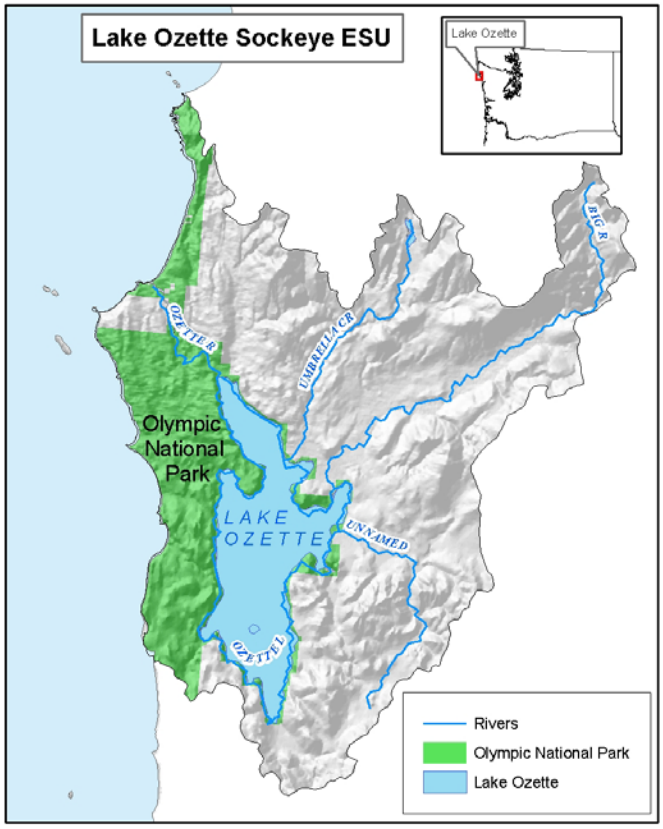


Figure 1. Lake Ozette Sockeye ESU Spawning and Rearing Range

ESA Requirements

The ESA requires that a recovery plan be developed and implemented for species listed as endangered or threatened under the statute. These plans must, at a minimum, contain (1) a description of site-specific management actions necessary to achieve the plan's goal for the conservation and survival of the species; (2) objective, measurable criteria which, when met, would result in a determination that the species be removed from the list; and (3) estimates of the time required and cost to carry out the measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal (section 4(f) of the ESA). Although the plans are guidance documents, not regulatory, the authors of the ESA clearly saw recovery plans as a central organizing tool for the recovery of listed species.

NMFS is the agency responsible for recovery planning for salmon and steelhead. NMFS has found that local support of recovery plans is essential to their success, and the agency is therefore

committed to involving local citizens in development of the plans. On the Olympic Peninsula, citizens, tribal governments, and state and local entities are leading development of a local recovery plan with NMFS involvement. This plan will describe a technically sound roadmap to recovery based on local efforts.

Context of Plan Development

The spawning and rearing range of the Lake Ozette sockeye salmon ESU lies within the Puget Sound "recovery domain," one of four recovery domains that NMFS delineated throughout Washington, Oregon, and Idaho to organize recovery planning for the 17 ESUs currently listed in this region.

For each domain, NMFS appointed an independent technical recovery team (TRT) that has geographic and species expertise for the listed salmon populations within the domain and can provide a solid scientific foundation for recovery plans. The charge of each TRT is to develop recommendations on biological viability criteria for ESUs and populations, to provide scientific support to local and regional recovery planning efforts, and to scientifically evaluate recovery plans. The TRTs include biologists from NMFS, state, tribal, and local agencies, academic institutions, and private consulting groups.

All TRTs use the same biological principles for developing their ESU and population viability criteria, which are described in a NMFS technical memorandum, *Viable Salmonid Populations and the Recovery of Evolutionarily Significant Units* (McElhany et al. 2000). Viable salmonid populations (VSP) are defined in terms of four parameters: abundance, productivity or growth rate, life history and genetic diversity, and spatial structure. Each TRT's recommendations are based on the VSP framework, as well as on considerations regarding data availability, the unique biological characteristics of the ESUs and habitats in the domain, and the members' collective experience and expertise. NMFS has encouraged the TRTs to develop regionally specific approaches for evaluating viability and identifying factors limiting recovery, but each TRT is working from a common scientific foundation to ensure that the recovery plans are scientifically sound and based on consistent biological principles.

In each domain, NMFS has worked with state, tribal, local, and other Federal stakeholders to develop a planning forum appropriate to the domain, building to the extent possible on ongoing, locally led efforts. In this case, the local forum is the Committee. The role of these planning forums is to use technical products from the TRT and other sources to agree on recommendations to make to NMFS regarding recovery goals, to assess limiting factors, and then to develop locally appropriate and locally supported recovery actions needed to achieve the recovery goals. While these forums also are working from a consistent set of assumptions regarding needed recovery plan elements, the process by which they develop those elements, and the form they

take, may differ among domains. For the Lake Ozette sockeye ESU, preliminary limiting factors analyses, watershed assessments, NMFS' status reviews, and future TRT products will provide building blocks for the recovery plan. The plan for Lake Ozette sockeye salmon is the product of the Committee.

Once a local plan is completed and transmitted to NMFS, NMFS will review the plan and develop a plan "supplement," which describes how the plan addresses ESA requirements for recovery plans. The supplement also proposes ESA de-listing criteria for the ESUs addressed by the plan, since a determination of these criteria is a NMFS decision. NMFS then will make the supplement and plan available for public review and comment before finalizing an ESA recovery plan.

Plan Development for Lake Ozette Sockeye Salmon

The Lake Ozette sockeye ESU includes all naturally spawned sockeye salmon residing below impassable natural barriers (e.g., long-standing, natural waterfalls) in Ozette Lake and its tributaries. Ozette Lake is located within the Olympic National Park on the northwest corner of Washington State. Sockeye salmon originating from the lone artificial propagation program operating in the Lake Ozette watershed (the Makah Tribe's Umbrella Creek/Big River program) are considered part of this ESU (69 FR 33120).

Olympic National Park is an important partner with NMFS, other entities, and citizens to protect and recover Lake Ozette sockeye salmon. Olympic National Park is the only national park in the lower 48 states that contains significant numbers of Pacific salmonids. Lake Ozette sockeye salmon represent a critical component of biological integrity from both ecosystem and public interest perspectives. Lake Ozette sockeye are critical to ecosystem function in the Park, and link freshwater, marine, and terrestrial systems. Ozette sockeye are one of only two populations of sockeye that inhabit the approximately one million acres of land managed by the National Park Service.

Below is an update on the status of TRT work for this domain and the status of recovery planning efforts, along with a description and timeline for the steps needed to complete a draft recovery plan.

Puget Sound Technical Recovery Team

Convened in 2000, the TRT for the Puget Sound domain, which encompasses the listed Ozette Lake sockeye, Hood Canal summer chum, and Puget Sound Chinook salmon ESUs, includes biologists from NMFS, state, tribal, and local resource management entities. A list of members and other information relating to this TRT is available at

http://www.nwfsc.noaa.gov/trt/trt_puget.htm. The Puget Sound TRT initially focused its work on producing technical recovery products for the Puget Sound Chinook and Hood Canal summer chum ESUs. With much of its previous work completed, the TRT will now develop technical products for the Lake Ozette recovery plan.

A first step for the TRT is to identify the historical demographically independent populations within each ESU. The Puget Sound TRT's identification of historical populations for the Lake Ozette ESU is underway and due for completion in March 2006, when it will be posted on the Northwest Fisheries Science Center web page at http://www.nwfsc.noaa.gov/trt/trt_puget.htm.

The TRT has started, but not yet completed, work in describing and recommending ESU viability criteria and population abundance, productivity, diversity, and spatial structure levels. The TRT will continue its work to produce draft viability criteria and also assess the present status of the ESU. A draft of this report will be available for co-manager (Federal, tribal, and state) and Committee review in April, 2006. Following revisions based on co-manager comment, a draft report for public review will be available at: http://www.nwfsc.noaa.gov/trt/trt_puget.htm. Finally, the draft viability criteria report will also be peer reviewed.

Additional future TRT products will include review of the draft limiting factors and threats report (described below) produced by the Committee, review of the management actions the Committee proposes to recover the ESU, and identification of research, monitoring, and evaluation needs. TRT meeting agendas and minutes are available at http://www.nwfsc.noaa.gov/trt/trt_puget.htm .

Lake Ozette Steering Committee

The draft recovery plan for the Lake Ozette sockeye ESU is in development. The Committee is leading the effort, with NMFS and state involvement. The Committee is made up of representatives from the Makah and Quileute Tribes, Clallam County, Olympic National Park, local land owners, Washington Governor's Salmon Recovery Office, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, NMFS, North Olympic Peninsula Lead Entity, private timber companies, and local citizens. A draft recovery plan is expected to be completed by December 2006. The draft outline for the recovery plan, which meets NMFS' ESA requirements for a recovery plan, is included as Attachment 1.

Major Milestones in the Process

1. Work with Lake Ozette Steering Committee to Develop Recovery Plan Products

In order to facilitate communication and coordinate recovery work with diverse interest groups in the ESU, NMFS is working with an existing citizen-based group called the Lake Ozette Steering Committee. The Committee has met periodically over the last few years to discuss natural resource issues related to the ESU. In collaboration with the Washington Governor's Salmon Recovery Office, NMFS intends to help hire a facilitator to manage the monthly Committee meetings during 2006. All Committee draft recovery plan products will be posted on the North Olympic Peninsula Lead Entity web page at http:noplegroup.org/NOPLE/pages/watersheds/OzetteLakeWatershedPage.htm. This link will also be available on NMFS' web site.

2. Produce Broad Sense Recovery Vision Statement

In February 2006, the Steering Committee will finalize its vision statement describing its future long-term goal for Lake Ozette sockeye salmon, also known as the broad sense recovery goal.

3. Produce Lake Ozette Sockeye Historical Population Report

The TRT will complete its draft Lake Ozette Sockeye Salmon Historical Population Report in March 2006 and the report will be posted at http://www.nwfsc.noaa.gov/trt/trt_puget.htm and shared with the Steering Committee.

4. Produce Draft Limiting Factors and Threats Report

Produced by a NOAA contractor in November 2005, a draft limiting factors and threats report was reviewed by technical experts in December 2005. The draft report will also be reviewed by the Committee and TRT. A final report is expected in early 2006.

5. Produce TRT Lake Ozette Sockeye Recommended Viability Criteria and Status Report

The TRT will complete its draft Lake Ozette Recommended Viability Criteria and Status Report in April 2006 and the report will be posted at: http://www.nwfsc.noaa.gov/trt/trt_puget.htm. The draft report will be reviewed by co-managers, the public, and will be peer reviewed before it is finalized.

6. Develop Lake Ozette Sockeye Biological and Threats Recovery Criteria

Based on the TRT's recommended viability criteria and status report and any other valuable scientific information, the Committee will develop and recommend biological and threats recovery criteria (1) to articulate the point at which the ESU is no longer in danger of extinction or likely to become endangered within the foreseeable future, and (2) to ensure that the underlying causes of decline for the ESU have been addressed and mitigated prior to considering the ESU for de-listing.

7. Develop Alternative Recovery Strategies

The Committee, in coordination with the TRT, will develop and evaluate ESU-level alternative recovery strategies. Recovery strategies are broad sets of actions that address limiting factors and threats and would lead to achieving ESU recovery goals (including long-term goals for economic, environmental and societal benefits). Ultimately, one strategy will be selected and become the basis for identifying recovery plan actions to meet viability criteria and achieve broad sense sockeye recovery.

8. Identify Site-Specific Management Strategies and Actions

Site-specific management strategies and actions carried out by state, Federal, tribal, and local jurisdictions, private land owners and companies, and citizens will be identified to implement the recovery strategy. NMFS and the Steering Committee will work with state, Tribal, and Federal agency representatives to identify specific on-going and future actions for the agencies to take. The recovery plan will address habitat, harvest, and hatchery-related actions and describe the management programs and forums where actions will be identified. Federal land management actions will include those to be accomplished by the Olympic National Park, and other Federal agencies will identify actions that are consistent with their authorizations and programs.

9. Estimate Time and Cost of Recovery Actions

NMFS intends to provide guidance for methods to estimate the time and cost of management actions. NMFS will work with the State and Steering Committee to develop time and cost estimates for the draft recovery plan.

10. Co-Manager and TRT Review Draft Plan

The draft recovery plan will be reviewed by co-managers and TRT members to ensure the draft plan is technically sound and that management strategies and actions are accurate and feasible.

11. NOAA Reviews Draft Recovery Plan

After co-manager and TRT review, NMFS staff will review the plan to ensure it meets NMFS' ESA requirements. A "supplement" will be written which evaluates the plan based on NMFS' ESA requirements and identifies any outstanding issues that need to be addressed.

11. Draft Recovery Plan Noticed in Federal Register

The draft plan and supplement will be noticed in the Federal Register to seek public review and comment in October 2006.

12. Finalize Recovery Plan Based on Public Comment

NMFS will finalize the recovery plan based on public comment by December 2006.

Attachment 1

The table below shows key milestones and products in the recovery planning process for the Lake Ozette sockeye ESU:

Task	**Expected Product**	**Expected Date**	**Responsible Entities**
NMFS works with Lake Ozette Steering Committee to produce draft recovery plan	Lake Ozette Steering Committee conducts monthly meetings to develop draft plan	Committee meets monthly; meeting on-going	NMFS, TRT, Steering Committee
Produce broad sense recovery goal	Vision statement of broad sense recovery	February 2006	Steering Committee, NMFS
TRT completes historical population report	TRT's historical population report	Complete in March 2006	TRT
Produce and review draft viability criteria and assessment of status of ESU	Draft TRT Viability Criteria and Status Report	Draft completed in April 2006; review in Spring 2006	TRT, co-managers, Public, peer reviewers
Develop biological and threats recovery criteria	Draft biological and threats recovery criteria	Complete in May 2006	Steering Committee, TRT, NMFS contractor
Identify alternative recovery strategies	Draft ESU alternative strategies for populations	Complete in May 2006	Steering Committee, TRT, with NMFS contractor
Identify management strategies and actions	Draft management strategies and actions	June 2006	Steering Committee; TRT review
Co-manager and TRT review draft plan	Comments from co-manager and TRT	September 2006	Co-managers and TRT
Draft plan noticed in Federal Register	Federal Register Notice	October 2006	NMFS, NMFS Headquarters
Finalize plan based on public comment	Final recovery plan	December 2006	NMFS, NMFS Headquarters

Contacts for Additional Information

Additional information about NMFS' salmon recovery activities and recovery plan products is located at http://www.nwr.noaa.gov/Regional-Office/Salmon-Recovery/index.cfm. The Northwest Fisheries Science Center's Lake Ozette sockeye TRT's technical products are located at http://www.nwfsc.noaa.gov/trt/trt_puget.htm. The Committee's draft recovery products will also be posted on the NOPLE web site: http:noplegroup.org/NOPLE/pages/watersheds/OzetteLakeWatershedPage.htm.

References

McElhany, P., M.H. Ruckelshaus, M.J. Ford, T.C. Wainwright, and E.P. Bjorkstedt. 2000. Viable Salmonid Populations and the Recovery of Evolutionarily Significant Units. U.S. Department of Commerce, NOAA Technical Memorandum. NMFS-NWFSC-42.

Attachment

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Outline for Lake Ozette Sockeye Recovery Plan

October 2005

I. Introduction
  - A. Problem Statement
  - B. Purpose of the Plan
    1. ESA
    2. Tribal
  - C. Context of Plan Development
    1. NMFS-Domains-TRT-public involvement
    2. How the plan was developed

II. Recovery Goals, Objectives and Criteria
  - A. Watershed Goals [if Steering Committee wants it – not needed for ESA/NMFS]
  - B. Recovery Goals
  - C. Biological criteria/VSP parameters
  - D. Threats-based criteria

III. Background
  - A. Species' Description and Taxonomy
  - B. Life History/Ecology
  - C. Habitat Requirements
  - D. Critical Habitat
  - E. Watershed Description/Conditions
    1. General
    2. Ozette River
    3. Lake Ozette
    4. Umbrella Creek
    5. Big River
    6. Crooked Creek
    7. Other Tributaries
    8. Estuarine/Nearshore
    9. Marine

IV. Status of Species (Population Trends and Distribution)

V. Reasons for Listing / Limiting Factors
    1. Harvest
      a. Tribal Trust Responsibilities [can largely refer to Intro]
      b. Historical
      c. Modern Day (1950s onward)

- d. Current
- 2. Habitat
  - d. Access
  - e. Channel
  - f. Floodplain
  - g. Riparian Forest
  - h. Water Quality
  - f. Water Quantity
  - g. Estuarine and Nearshore
  - h. Lake Shoreline
  - i. Marine
  - j Ecological Interactions
- 3. Hatcheries
- 4. Hydropower
- 5. Other
  - d. Predation
  - e. Small population size

VI. Conservation Efforts
VII. Recovery Strategy

- A. Harvest
- B. Habitat
- C. Hatchery
- D. Other

VIII. Recovery Program
- A. Recovery Action Outline
- B. Recovery Action Narrative
  - 1. Management Actions
    - a. Harvest
    - b. Habitat
    - c. Hatchery
    - d. Integration of "H" Actions
    - e. Outreach and Education
    - e. Other
  - 2. Research, Monitoring and Evaluation

IX. Implementation Schedule (Actions, Responsibilities and Cost Estimates)
X. Literature Cited
XI. Appendices